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## WHAT IS CLAIMED IS:

1. A superluminal transmission device for measuring the runneling time  
5 of a wavepacket comprising:

a transmission source for generating a wavepacket, the wavepacket  
comprising a wavefront component;

a signal controller for generating a signal pulse;

a signal receiver for receiving the signal pulse;

10 a selective-transmission device comprising a quantum barrier defining  
a transmission distance, said selective-transmission device being in signal  
communication with the transmission source, the signal controller and the receiver  
such that the wavepacket is transmitted to the barrier and the wavefront component  
of the wavepacket tunnels through the barrier and across the transmission distance  
to the receiver causing superluminal group velocities; and

15 a monitor in signal communication with the receiver for determining  
the tunneling time of the wavepacket.

20 2. A transmitter as described in claim 1, wherein the quantum barrier  
comprises a pair of transmission barriers positioned parallel to each other and  
separated by an air gap having a length.

25 3. A transmitter as described in claim 2, wherein the pair of transmission  
barriers are tanks defining an internal volume capable of holding a liquid.

4. A transmitter as described in claim3, wherein the liquid is water.

30 5. A transmitter as described in claim 2, wherein the length of the air gap  
can be adjusted such that the length of the air gap enhances the wavefront  
component of the wavepacket transmission.

35 6. A transmitter as described in claim 1, wherein the transmitter  
comprises a pulse transmitter in signal communication with a transmission  
antenna.

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7. A transmitter as described in claim 6, wherein the antenna is a five element folded-dipole Yagi antenna.

5 8. A transmitter as described in claim 1, wherein the transmitter further comprises a wavelength selector such that only desired radio wavelengths are transmitted by the transmitter.

10 9. A receiver as described in claim 1, wherein the receiver comprises a radio amplifier in signal communication with a receiver antenna.

15 10. A receiver as described in claim 9, wherein the antenna is a five element folded-dipole Yagi antenna.

15 11. A method for measuring the velocity of a specified frame of reference comprising utilizing a superluminal transmitter as described in claim 1 to measure the tunneling time and comparing said tunneling time verse a standard.

20 12. A method for determining the date and time comprising utilizing a superluminal transmitter as described in claim 1 to measure the tunneling time and comparing said tunneling time verse a standard.

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